

# Bill 25

## Early Testimony

**MISC. COM. 372**

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**From:** CLK Council Info  
**Sent:** Saturday, June 29, 2019 6:42 PM  
**Subject:** Council/Public Hearing Speaker Registration/Testimony

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## Speaker Registration/Testimony

Name	Arvud Tadao Youngquist
Phone	8088452495
Email	arvidtadaokitty@gmail.com
Meeting Date	07-03-2019
Council/PH Committee	Council
Agenda Item	Bill 25
Your position on the matter	Support
Representing	Self
Organization	
Do you wish to speak at the hearing?	Yes
	Chair Ikaika Anderson and Council
	I support Bill 25 for Purpose of Pass First Reading.
Written Testimony	Mahalo,
	Arvid T. Youngquist Resident & Voter
Testimony Attachment	
Accept Terms and Agreement	1

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**From:** CLK Council Info  
**Sent:** Sunday, June 30, 2019 11:36 AM  
**Subject:** Council/Public Hearing Speaker Registration/Testimony

## Speaker Registration/Testimony

Name Paul Bernstein  
Phone 8083737161  
Email PAULBERNSTEIN2004@YAHOO.COM  
Meeting Date 07-03-2019  
Council/PH Committee Council  
Agenda Item Bill 25 First Reading  
Your position on the matter Support  
Representing Self  
Organization  
Do you wish to speak at the hearing? No

Aloha Council Members:

I am writing in support of Bill 25. Economists have long recognized the principal-agent problem that constrains incentives for energy-efficiency investments by either landlords or tenants in renter-occupied properties and the need for energy efficiency standards to overcome this market failure. That is, there are instances that regulators should invoke energy efficiency standards to effect a more efficient market outcome that improves the wellbeing of society.

Written Testimony Bill 25 is one such case. The Bill's requirement for the installation of solar hot water (SHW) heaters would result in savings of up to \$8,600 per household over the expected life of the equipment compared to a standard grid resistance water heater. The Bill's requirement to make 25% of stalls in newly constructed multi-family facilities over 8 stalls and commercial parking facilities over 12 stalls "EV ready" will save Oahu renters greatly as it is far less expensive to incorporate EV readiness into a building as it is being constructed rather than retrofitting a building.

Thank you for the opportunity to submit comments in support Bill 25 (2019). I urge you to support the Bill as proposed by the Administration.

Best regards,  
Paul Bernstein

Testimony  
Attachment  
Accept Terms  
and Agreement 1

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**From:** CLK Council Info  
**Sent:** Sunday, June 30, 2019 8:08 PM  
**Subject:** Council/Public Hearing Speaker Registration/Testimony

## Speaker Registration/Testimony

Name Tom Aitken  
Phone 8084291242  
Email Capitolist@tomaitken.net  
Meeting Date 07-03-2019  
Council/PH Committee Council  
Agenda Item Bill 25  
Your position on the matter Comment  
Representing Self  
Organization  
Do you wish to speak at the hearing? No

I urge you to amend Bill 25 to upgrade the required EV charging from Level 1 to a higher level. I am an EV owner and was only able to partially charge my vehicle each night with a Level 1 charger (4 miles of charging per hour).

Written Testimony Current production EV vehicles no longer top-off under 100 miles, but rather require charging for 200 miles or more. That would take over 40 hours on a Level 1 charger.

Level 1 charging does NOT work for me and most drivers who clock daily EV miles comparable to those with internal combustion engines. I now have a LEVEL 2 system, which is sufficient (for my needs).

Testimony  
Attachment  
Accept Terms and Agreement 1

# Speaker Registration/Testimony

Name NANETTE VINTON  
 Phone 530-839-3039  
 Email nanimac@gmail.com  
 Meeting Date 07-03-2019  
 Council/PH Committee Zoning  
 Agenda Item Bill 25  
 Your position on the matter Support  
 Representing Self  
 Organization  
 Do you wish to speak at the hearing? No

Written  
 Testimony

I am writing in support of Bill 25. As a longtime EV owner and proponent, I applaud our legislators for having the foresight to support EV infrastructure in future development. One of the hindrances to EV adoption is the lack of accessible charging infrastructure in many existing condo and town home projects. This bill is the great step to supporting future EV growth by requiring EV ready parking stalls in both resident and work locations. However, my concern is that Level 1 charging is not sufficient for today's EVs, much less the future models, as the charging rate is equivalent to plugging into a regular 120V outlet. The slow charging rates will result in EV owners spending more time per car charging and thus affect the true accessibility of the charger. Level 2 chargers are multiple times faster and simply require a 240V power source instead.

Thus, i'm asking you to consider revising the requirement in the Bill to support Level 2 charging instead. This would allow for more people to be able to charge and thus further support EV growth.

Respectfully submitted,  
 Nanette Vinton  
 Mililani, HI

Testimony  
 Attachment  
 Accept Terms  
 and 1  
 Agreement

## Testimony in Support of Bill 25

(RELATING TO THE ADOPTION OF THE STATE ENERGY CONSERVATION CODE)

Aloha Council Members:

I believe we must make it as easy as possible to use electric vehicles in order to reduce carbon dioxide emissions enough to meet the limits required by Hawaii Act 32 of 2017 (SB559 CD1). The requirements in this Honolulu bill to install the wiring during construction is a must to avoid extremely high cost of retrofitting after the initial construction.

Likewise, the requirements in this bill to ensure that water heating takes advantage of renewable energy is a must.

Furthermore, the relatively inexpensive upfront investment during construction will minimize long-term energy costs for homeowners and renters alike, leading to lower overall costs to reduce greenhouse gas emissions.

As a member of the Citizens' Climate Lobby, I believe that Honolulu and the rest of the world cannot let climate change proceed unchecked. As such the United States needs to employ economic incentives to encourage households and businesses to reduce their emissions of greenhouse gases; I am especially hopeful the Energy Innovation and Carbon Dividend Act, which places a fee on emissions of carbon dioxide and refunds these fees to citizens, will become law. This act or similar laws will increase the cost of using fossil fuels. Therefore, to help Honolulu homeowners and renters avoid these higher energy costs, we need to provide carbon-free or low carbon options with the lowest cost possible. Bill 25 will do just that by significantly lowering the costs of switching to electric vehicles and solar hot water heating.

Please help make it relatively easy for homeowners and renters to adjust by passing bill 25. Measures in this bill are necessary for Honolulu to realize a sustainable future.

Thank you,

Charles E. Cox

July 2, 2019



# SHIFTED ENERGY

2800 Woodlawn Drive, #101, Honolulu, HI 96822  
Telephone: +1.808.664.0053 | Email: [info@ShiftedEnergy.com](mailto:info@ShiftedEnergy.com)

## *Zoning, Planning and Housing committee*

*CITY COUNCIL CHAMBER 13TH SESSION WEDNESDAY, JULY 3, 2019 10 A.M.*

July 2, 2019

### ***Shifted Energy Supports Bill 25 Relating to the adoption of the State Energy Conservation Code***

Aloha Chair Menor and members of the Zoning, Planning and Housing committee:

Thank you for the opportunity to submit testimony in **strong support** of Bill 25. The inclusion of grid-interactive water heater requirements within the Solar Water Heating mandate, in alignment with the International Energy Conservation Code, provides an important tool to enable Hawai'i to meet its renewable energy goals while ensuring that all ratepayers benefit from the realization of those goals.

Shifted Energy was founded in Hawai'i in 2014 from the energy efficiency and energy justice activities of non-profit Kanu Hawai'i. During our community engagement and outreach activities, we identified two key lessons that are relevant to the Council's current deliberations:

- 1) Low and moderate income families, multi-family dwelling residents, and renters are often not able to take advantage of emerging technologies, such as rooftop solar and home battery systems, that would reduce their electric bills and allow them to support renewable energy deployment; and
- 2) Electric water heating is the predominant form of water heating and makes up a disproportionately large percentage of many Hawai'i residents' electric bills.

Shifted Energy was incubated out of Kanu Hawaii with the goals of engaging hard-to-reach communities in the renewable energy transformation through utilization of their electric water heaters. We currently employ 6 people on Oahu, have just hired a new engineering graduate who we connected with through HTDC, and look forward to continue building our company in Hawaii in support of local innovation and job creation.

To understand the concept of 'grid-interactive water heating', it is important to first understand that Hawaii's 100% renewable energy generation portfolio mandate is requiring Hawaiian Electric to integrate increasing amounts of intermittent renewable energy. The intermittent nature of renewable energy generation means that 1) electricity production is not always aligned with customer demand, and 2) there are often rapid fluctuations in generation as clouds pass overhead. So as Hawaiian Electric adds more renewable generation to Oahu's electricity system, they must also:

- 1) Add ways to store solar energy for delivery later in the day;
- 2) 'Smooth' the rapid fluctuations to maintain the stability of the power grid; and
- 3) Reduce total electricity demand during periods when renewable generation is not high (e.g., during the night) through energy efficiency or demand *shifting*.

As the Council is likely aware, grid-scale and customer-sited energy storage batteries are able to provide all of the above services and Hawaiian Electric is actively procuring solar and energy storage projects to do just that. But these batteries typically utilize lithium ion chemistry, which is currently fairly expensive (preventing many homeowners from being able to purchase them) and present safety issues that make procurement, permitting,



and deployment a challenge. Safe, inexpensive alternatives would enable rapid scaling of energy storage technology and integration of renewables.

#### Enter Grid-Interactive Water Heating.

Water heater tanks are essentially large cylinders that store *thermal* energy, and there are hundreds of thousands of them across Oahu. Shifted Energy has developed an inexpensive, non-intrusive control device that can be attached to any electric water heater to convert it into a customer-sited battery. When deployed for apartment or condominium renters and owners, Shifted's controllers essentially transform the entire building into a giant battery simply by upgrading existing electric water heater assets. These batteries will then respond to control signals from Hawaiian Electric to support grid stability and renewable integration. Hawaiian Electric then compensates the host customer for the 'grid support services' that those water heaters provide and Shifted's intelligent software ensures that families always have hot water when they need it.

Because so many families already have such water heaters and the cost of the controller is low, including grid-interactive water heating in Bill 25 and the City and County electric codes ensures that hard-to-reach families can finally participate in and benefit from the clean energy revolution and Oahu can rapidly scale a cost-effective technology to support safe, low-cost renewable energy integration.

For the foregoing reasons, Shifted Energy **strongly supports** this measure.

Mahalo,

A handwritten signature in black ink, appearing to read "Forest Frizzell".

Forest Frizzell, CEO  
Shifted Energy

**Testimony before the City Council  
City and County of Honolulu  
Full Council**

**Testimony in Support**

**Bill 25 (2019)  
Relating to the Adoption of the State Energy Conservation Code**

**By Michael Colón  
Manager, Electrification of Transportation Department  
Hawaiian Electric Company, Inc.  
and  
Carlos Perez Loriga  
Director, Customer Solutions  
Hawaiian Electric Company, Inc.**

**July 3, 2019  
10:00 a.m.  
City Council Chamber**

Chair Anderson, Vice Chair Kobayashi, and Members of the Council,

Hawaiian Electric Company, Inc. ("Hawaiian Electric") is writing in support of Bill 25 (2019) which is proposing to adopt the State Energy Conservation Code with county amendments to regulate the design and construction of residential and commercial buildings. Hawaiian Electric Company is writing in support of two particular provisions in Bill 25 (2019): (1) Subsection R403.5.5 which would allow certain exceptions to the requirement that residential single-family buildings use solar, wind or another renewable energy source for not less than 90 percent of the energy for service water heating; and (2) Subsection C406.8 relating to Electric vehicle infrastructure, which seeks to integrate clean transportation planning with large residential and commercial development, by requiring a portion of available parking stalls be electric vehicle (EV) charger ready. These two provisions are working toward a cleaner renewable future for Honolulu and the State of Hawaii.



**Hawaiian Electric  
Maui Electric  
Hawai'i Electric Light**

In Subsection R403.5.5 Solar Water Heating -- this bill is proposing to provide an exception if the installation of a solar water heater proves to be impractical due to poor solar resource or is cost-prohibitive based upon a life cycle cost-benefit analysis. Furthermore, the exception allows for the use of other technologies that advance renewable energy for service water heaters; in particular, the exception offers the option to use grid-interactive water heaters fitted with controls that would also enable customers to participate in Hawaiian Electric Company's demand response programs while helping the State achieve its renewable goals. As water heaters are one of the highest energy consuming appliances, the ability to control such load through Demand Response will create an opportunity for customers to directly participate in the reliability of our grid while enabling greater renewable energy integration in the State. For these reasons, Hawaiian Electric supports the proposed language in Subsection R403.5.5.

In addition, Hawaiian Electric Company supports Subsection C406.8 Electric vehicle infrastructure -- this subsection proposes Electric Vehicle infrastructure for new residential multi-unit buildings and new commercial buildings meeting certain criteria, commonly known as EV charger readiness. This bill has the potential to make a big impact on the availability of EV charging infrastructure, particularly in areas of high population density. These areas are typically ideal locations for EVs in that residents typically have shorter driving distances than those living in less dense, but more distant locations from the city center. Existing commercial locations and multi-family buildings face expensive retrofits to their parking facilities to be EV ready. However, by making a proactive requirement to plan for and incorporate EV charging into future large building projects, the costs will be lower.



Providing increased access to EV charging at workplaces, commercial locations and multi-family buildings are all key priorities identified in the Companies' Electrification of Transportation Strategic Roadmap. These provisions related to EV charging will continue the tremendous progress that the state has made towards a cleaner and more sustainable transportation future.

Accordingly, the Hawaiian Electric Company support Bill 25 (2019). Thank you for this opportunity to testify.

